

**I CLAIM:**

1           1.     An electronic circuit, comprising:  
2                     circuit elements arranged in an array of rows and columns, said circuit  
3 elements being alterable in response to data stored therein and configured to shift data  
4 therebetween; and  
5                     a strobe line electrically coupled to ones of said circuit elements constituting a  
6 set to provide thereto a strobe signal to cause said ones of said circuit elements in said set to  
7 shift data to non-adjacent ones of said circuit elements outside said set in an interleaving  
8 pattern, said set including row-adjacent and column-adjacent ones of said circuit elements.

1           2.     The electronic circuit of Claim 1, wherein said strobe line is electrically  
2 coupled to ones of said circuit elements located in at least a portion of at least two adjacent  
3 rows of the array.

1           3.     The electronic circuit of Claim 2, wherein:  
2                     said strobe line is electrically coupled to ones of said circuit elements located  
3 in a first pair of adjacent rows of the array to provide a first strobe signal to said ones of said  
4 circuit elements located in the first pair of adjacent rows; and  
5                     said electronic circuit additionally comprises an additional strobe line  
6 electrically coupled to ones of said circuit elements located in a second pair of adjacent rows  
7 of the array to provide a second strobe signal to said ones of said circuit elements located in  
8 the second pair of adjacent rows.

1           4.       The electronic circuit of Claim 3, wherein said first strobe signal is operable to  
2   shift data from said ones of said circuit elements in the first pair of adjacent rows to said ones  
3   of said circuit elements in the second pair of adjacent rows.

1           5.       The electronic circuit of Claim 1, wherein said strobe line is electrically  
2   coupled to ones of said light modulation elements located in at least a portion of at least two  
3   adjacent columns of the array.

1           6.       The electronic circuit of Claim 1, wherein said strobe line is electrically  
2   coupled to at least two groups of orthogonally-adjacent ones of said circuit elements, said at  
3   least two groups being positioned diagonally in the array with respect to one another.

1           7.       The electronic circuit of Claim 6, wherein said orthogonally-adjacent ones of  
2   said circuit elements are in at least two adjacent rows.

1           8.       The electronic circuit of Claim 6, wherein said orthogonally-adjacent ones of  
2   said circuit elements are in at least two adjacent columns.

1           9.       The electronic circuit of Claim 1, further comprising: a buffer connected to at  
2   least one end of the array to load the data into ones of said circuit elements.

1           10.      The electronic circuit of Claim 9, wherein said buffer is configured to load  
2   data into ones of said circuit elements in at least a portion of at least two of the rows of the  
3   array.

1           11.     The electronic circuit of Claim 9, wherein said buffer is configured to load  
2     data into ones of said circuit elements in at least a portion of at least two of the columns of  
3     the array.

1           12.     The electronic circuit of Claim 9, wherein said buffer comprises buffer  
2     elements, each of said buffer elements loading data into a respective portion of the array, said  
3     strobe line being within a second portion of the array and being connected to clock one of  
4     said buffer elements associated with a first portion of the array to load data into the first  
5     portion of the array.

1           13.     The electronic circuit of Claim 1, wherein said circuit elements are light  
2     modulation elements, said light modulation elements including:  
3                 memory elements configured to store the data and shift the data therebetween;  
4     and  
5                 pixel controllers configured to alter the state of respective ones of said light  
6     modulation elements in response to the data stored in respective ones of the memory  
7     elements.

1           14.     The electronic circuit of Claim 13, wherein the memory elements include two  
2     groups of the memory elements, the pixel controllers being controlled by the memory  
3     elements in an interleaving pattern between the two groups of memory elements.

1           15.     The spatial light modulator of Claim 13, wherein each of the memory  
2     elements further includes an output node electrically coupled to the respective pixel controller  
3     and to an input node of a non-adjacent one of the memory elements.

1           16.     The spatial light modulator of Claim 13, wherein said light modulation  
2 elements comprise liquid crystal material

1           17.     The spatial light modulator of Claim 16, wherein:  
2                   the pixel controllers include pixel electrodes configured to receive the data  
3 stored in the respective memory elements, and  
4                   said light modulation elements collectively comprise a common electrode  
5 configured to receive a common electrode signal for said light modulation elements.

1           18.     The spatial light modulator of Claim 13, wherein:  
2                   said light modulation elements additionally include micromirrors, and  
3                   the pixel controllers comprise electromechanical devices configured to control  
4 the state of said respective ones of said micromirrors in response to the data stored in  
5 respective ones of said memory elements.

1           19.     The spatial light modulator of Claim 1, wherein said electronic circuit  
2 additionally comprises:  
3                   additional strobe lines; and  
4                   a shift register electrically connected to said strobe lines to apply the strobe  
5 signals sequentially thereto.

1           20.     The spatial light modulator of Claim 19, wherein said shift register  
2 implements a ripple clock.

1           21.     A method for performing photolithography, said method comprising:  
2                     loading data representing an image into light modulation elements;  
3                     altering ones of the light modulation elements in response to the data loaded  
4     thereinto to transfer an instance of the image onto a substrate;  
5                     shifting the data between non-adjacent ones of the light modulation elements  
6     in an interleaving pattern;  
7                     altering ones of the light modulation elements in response to the data shifted  
8     thereinto to transfer another instance of the image onto the substrate.

1           22.     The method of Claim 21, wherein each said altering further comprises:  
2                     applying a voltage in response to the data to the change optical characteristics  
3     of the light modulation elements.

1           23.     The method of Claim 21, wherein said shifting further comprises:  
2                     applying strobe signals to strobe lines electrically coupled to respective ones  
3     of said light modulation elements to cause the data to be shifted between the non-adjacent  
4     ones of the light modulation elements.

1           24.     The method of Claim 23, wherein said applying further comprises:  
2                     utilizing a ripple clock to control the timing of said applying.

1           25.     The method of Claim 23, further comprising:  
2                     providing the light modulation elements arranged in an array of rows and  
3     columns.

1           26.     The method of Claim 25, wherein said shifting further comprises:  
2                     applying the strobe signals to respective sets of the light modulation elements,  
3     at least one of the sets comprising ones of the light modulation elements in at least a portion  
4     of at least two adjacent rows; and  
5                     shifting the data between the light modulation elements in non-adjacent rows.

1           27.     The method of Claim 25, wherein said shifting further comprises:  
2                     applying the strobe signals to respective sets of the light modulation elements,,  
3     at least one of the sets comprising ones of the light modulation elements in at least a portion  
4     of at least two adjacent columns; and  
5                     shifting the data between the light modulation elements in non-adjacent  
6     columns.

1           28.     The method of Claim 25, wherein said shifting further comprises:  
2                     applying the strobe signals to respective sets of the light modulation elements,  
3     at least one of the sets comprising ones of the light modulation elements in at least two  
4     groups of orthogonally-adjacent ones of the light modulation elements, the at least two  
5     groups being positioned diagonally within the array with respect to one another.

1           29.     The method of Claim 21, wherein:  
2                     the method additionally comprises providing the light modulation elements  
3     arranged in an array of rows and columns; and  
4                     loading the data into the light modulation elements at one end of the array.

1           30.    The method of Claim 29, wherein said loading further comprises:  
2                   loading the data into ones of the light modulation elements in at least a portion  
3 of at least two rows of the array.

1           31.    The method of Claim 29, wherein said loading further comprises:  
2                   loading the data into ones of the light modulation elements in at least a portion  
3 of at least two columns of the array.

1           32.    The method of Claim 29, wherein said loading comprises loading data into a  
2 first section of the array in response to a strobe signal derived from the strobe signal used to  
3 shift data in a second section of the array.